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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,681	07/28/2003	Gilbert N. Riley JR.	112903.128US2	4491
23483 7590 01/25/2007 WILMER CUTLER PICKERING HALE AND DORR LLP 60 STATE STREET BOSTON, MA 02109			EXAMINER ONEILL, KARIE AMBER	
			ART UNIT	PAPER NUMBER
			1745	
SHORTENED STATUTORY PERIOD OF RESPONSE		NOTIFICATION DATE	DELIVERY MODE	
3 MONTHS		01/25/2007	ELECTRONIC	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 01/25/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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**Office Action Summary**

Application No.

10/628,681

Applicant(s)

RILEY ET AL.

Examiner

Karie O'Neill

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-90 is/are pending in the application.
- 4a) Of the above claim(s) 22-90 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11-8-2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>11-8-04, 11-28-05</u> | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of Group I, Species I-1 (claims 1-21) in the reply filed on November 2, 2006 is acknowledged. Therefore, Claims 22-90 have been withdrawn from consideration.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what a "desired" arbitrary configuration in Claim 1 would be.

4. Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what is meant by the term "arbitrary", in "arbitrary form factor" and "arbitrary configuration", in Claims 1, 7, 8, 11, 18 and 19.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Chiang et al. (US 2003/0099884 A1).

With regard to Claims 1, 11 and 12, Chiang et al. disclose a bipolar device having an arbitrary form factor by being self-organized (paragraph 0122), the article comprising: (a) a bipolar structure having an anode, a cathode and an electrolyte in contact with and separating the anode and cathode (paragraph 0104), wherein the anode and cathode are interpenetrating (paragraph 0019); (b) a cathode current collector (310) that is in electronic communication with the cathode component (300) (paragraph 0119 and Figure 3); (c) an anode current collector (330) that is in electronic communication with the anode component (320) (paragraph 0119 and Figure 3); wherein the bipolar article has an arbitrary configuration that has a thickness that varies across the length or width of the article, each of the convexities or protrusions formed in the electrodes being sufficient to produce features with a thickness or width that are less than the maximum thickness or width of each electrode (paragraph 0112), as can be seen in Figures 2A-2D. For compact prosecution, the term arbitrary is taken to mean any type of formation based on or subject to individual discretion or preference.

With regard to Claims 2 and 13, Chiang et al. disclose wherein the anode and cathode and electrolyte possess intrinsic characteristics such that the appropriate the

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anode and cathode particles spontaneously wire themselves and the electrolyte occupies all positions between the anode and cathode particles (paragraph 0199), and wherein the cathode current collector is attractive to the cathode network and repulsive to the anode network, and the anode current collector is attractive to the anode network and repulsive to the cathode network (paragraph 0206).

With regard to Claims 3 and 14, Chiang et al. disclose wherein one or both of the anode and cathode current collectors comprises a coating providing a repulsive force between the current collector and the opposite anode or cathode network (paragraph 0206). Each current collector has a surface that will attract either the cathode or the anode and repel the other. One current collector can be coated with a thin layer of a conductive low refractive index material, which would attract a low refractive index material and repel a high refractive index material, while the opposing current collector would have a high refractive index, which would have the opposite effect (paragraph 0207).

With regard to Claims 4 and 15, Chiang et al. disclose coating the current collector with an electronically conducting material. Example 9 discloses the current collector coating as being a conductive polymer blend of PEDT-PSS and PTFE (paragraph 0247).

With regard to Claims 5 and 16, Chiang et al. disclose wherein the anode, electrolyte and cathode are sequentially deposited (paragraph 0219, Example 1).

With regard to Claims 6-10 and 17-21, Chiang et al. disclose a device comprising the bipolar article, wherein the bipolar article is a rechargeable battery, which can be

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incorporated into devices such cellular telephones, laptop computers and other consumer electronic products (paragraph 0006). To be incorporated into the device, the battery would have to be conformal to at least one surface of the device so as to make a proper connection in order to be able to properly function. The laptop computer or cellular telephone would have cavity in which the battery would fill the space of the cavity while making the electrical connections in order to operate.

7. Claims 1 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Shinn et al. (US 2003/0114297 A1).

With regard to Claims 1, 11 and 12, Shinn et al. disclose in Figure 2, a bipolar article, also called a membrane electrode assembly, having an arbitrary form factor, the article comprising: (a) an anode (220), a cathode (225) and an electrolyte (200) in contact with and separating the anode and cathode, wherein the anode and cathode are interpenetrating (paragraphs 0010-0016); (b) a cathode current collector in the form of a copper plate (190) that is in electronic communication with the cathode (paragraph 0025); (c) a anode current collector in the form of a copper plate (195) that is in electronic communication with the anode (paragraph 0025), wherein the bipolar article has a thickness that varies across the length or width of the article, as can be seen in Figure 2. For compact prosecution, the term arbitrary is taken to mean any type of formation based on or subject to individual discretion or preference.

### ***Double Patenting***

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1-21 are provisionally rejected on the ground of nonstatutory double patenting over claims 1, 6-8, 12-16, 20, 23 and 29-30 of copending Application No. 2003/0099884 A1. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: a device comprising a first and second electrode with corresponding current collectors, an electrolyte between the electrodes, and an interpenetrating network between the electrodes wherein the

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electrode structure provides two or more pathways to the current collector through an arbitrary configuration.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karie O'Neill whose telephone number is (571) 272-8614. The examiner can normally be reached on Monday through Friday from 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.




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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Karie O'Neill  
Examiner  
Art Unit 1745

KAO

  
DAH-WEIYUAN  
PRIMARY EXAMINER